The use of the telephone interview for research

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Nursing Times Research 2001 6: 511
DOI: 10.1177/136140960100600107

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The increasing popularity of the telephone interview as a research method may be a reflection of broader social change and technological advances, with increased use and acceptability of telecommunications to support healthcare and service industries in general. Despite its widespread use there are few definitions of the term. Studies which directly compare telephone and face-to-face interviewing tend to conclude that telephone interviewing produces data which are at least comparable in quality to those attained by the face-to-face method. While it has been used for large survey studies, in nursing research the telephone interview is used predominantly in smaller-scale qualitative studies, where contact has already been made with the participants. The telephone interview was used in a study by one of the authors (EC) which explored the experience of postoperative pain. Issues relating to ethical considerations, reliability, validity, limitations and analysis are explored. The use of the approach for pain research is reflected upon before considering the wider applications that are available for this method of data collection in healthcare practice.

KEY WORDS
Telephone interview, Research methods, Pain

INTRODUCTION

Before the 1960s, the proportion of households in the UK with telephones was too low to justify their use for research purposes, but telephone interviewing became increasingly common in subsequent decades as telephone ownership in Western societies grew to over 90% of households (Lavrakas, 1987). A 1993 paper, co-authored by one of the present authors (AW), found few reports of telephone interviews being used in nursing and health services research (Worth and Tierney, 1993). A recent Medline search from 1990-1999, using the search term 'telephone interview', however, indicated a considerable increase in use of the method in subsequent years. It therefore seems timely to re-examine the literature on telephone interviews in nursing research, using the authors' research and that of others to illustrate the uses of the method. Further, the paper aims to examine the wider social context of the increasing use of the telephone interview and to consider its further potential applications in healthcare research and practice.

INCREASED POPULARITY: THE SOCIAL CONTEXT OF THE TELEPHONE INTERVIEW

The increasing popularity of the telephone interview as a research method may in part reflect broader social change and technological advances, with increased use and acceptability of telecommunications to support healthcare and service industries in general. As Pencheon (1998) points out, telephone services are one of the fastest growing areas of employment in the United Kingdom. The public are increasingly accustomed to receiving telephone sales calls and to conducting business, such as banking, by telephone. Researchers' concerns regarding subjects' lack of telephone ownership, and potential lack of familiarity and ease with telephone communication, common in the literature on telephone interviews in the 1970s and 1980s (for example Victor, 1988), appear less valid now that patterns of interpersonal communication have been transformed by advancements in telecommunications.

Hopper (1992) describes the telephone as 'the primary electronic medium for interpersonal communication', which creates 'a new consciousness about spoken language'. He suggests that the telephone is, however, overlooked as a

spearhead of social change compared to the impact of television, movies and music. It is highly possible that the recent rise in mobile telephone use, and the increasing links between mobile phones and other recent communications technology such as e-mail, will prove to be a more fruitful field for sociological research. Betteridge (1997) argues that academic interest in the telephone has been limited until recently, because it was seen as a private convenience, facilitating personal and business communication. She includes the use of the telephone in research interviews and surveys as an example of the incorporation of the telephone into almost every aspect of modern communication, other examples being television and radio phone-in shows, selling, counselling, helplines, sexual gratification and matchmaking. These changing patterns of communication reflect changing social relationships and organisation: the telephone, while 'facilitating contact across time and space… diminishes face-to-face interaction' (Betteridge, 1997). The increased social acceptance of such changes can be seen as presenting researchers with opportunities to substitute the telephone for face-to-face contact with subjects.

Understanding the social significance of the telephone is also crucial to understanding patterns of response, for example, refusal to participate or unwillingness to give undivided attention, and such information can be used to improve response rates and data accuracy (Frey, 1983). The 'norms of telephone usage' (Frey, 1983) can also be seen as being to the interviewer's advantage; for example, people feel compelled to answer a ringing phone; people are reluctant simply to hang up without negotiating non-participation; both parties are required actively to participate, and silence is rare in telephone conversations.

THE DEFINITION AND PURPOSE OF THE TELEPHONE INTERVIEW

Frey (1983) defines telephone conversation as 'an interactional sequence without the assistance of visual cues'. According to Hopper (1992), the two parties must construct an encounter, setting the context only with their voices: they must identify each other and define the situation in which the dialogue will unfold. The research literature does not address definitions of telephone interviewing, suggesting a high degree of acceptance and assumed understanding of the term. We offer the following definition: a telephone interview in research terms is a strategy for obtaining data which allows interpersonal communication without a face-to-face meeting.

The method can be used on its own or in combination with face-to-face interviews, and questionnaire surveys and interview schedules can be structured or semi-structured. The two main uses of the telephone interview in healthcare research are in large-scale surveys and in smaller qualitative studies. Selecting the sample for a telephone interview can vary accordingly. Some studies contact subjects purposefully, as in follow-up interviews of subjects previously recruited in person (for example Worth and Tierney, 1993). Another approach, used by Wilson and Roe (1998), was to conduct telephone interviews with a self-selected convenience sample of respondents to an earlier, larger-scale postal survey.

Telephone surveys often use computer-assisted dialling and data collection techniques. Random digit dialling (RDD) has become a standard strategy for selecting population controls in case-control studies conducted in the United States (Funkhouser et al., 2000). The technique involves random generation of telephone numbers, generally using a computer programme. One major advantage of RDD is that it allows working household numbers an equal chance of selection whether or not they are listed, thereby avoiding some of the potential biases in sampling from telephone directories (such as ex-direc-

tory numbers). The disadvantages include difficulty in ascertaining the representativeness of an RDD-selected study group in relation to the target group. It also does not screen out non-household numbers (Robson, 1993).

Techniques have been developed which aim to improve the quality of the information obtained from a telephone interview where respondents are required to recall information, for example, over a 24-hour period. Jonnalagadda et al. (2000) conducted a study to examine the accuracy of a multiple-pass, 24-hour recall method for estimating energy intakes in a sample of 78 men and women. Respondents were asked to recall all foods eaten the previous day, using a recall strategy. The interviewer then obtained more detailed information by probing for additions to foods and giving respondents the opportunity to recall foods previously forgotten. In the third pass, the interviewer reviewed all the food reported and the respondent tried to elicit more foods or eating occasions which might have been omitted. The method was developed to reduce the possibility of under-reporting of dietary intake by providing respondents with multiple cues and opportunities to recall food intake. The researchers concluded that the method was practical for estimating energy intakes but had little impact on altering food patterns, as the recalls were unannounced.

TELEPHONE V. FACE-TO-FACE INTERVIEWS

There is good support in the literature for the telephone interview as a legitimate data collection method for research (Oppenheim, 1992; Barriball et al., 1996; Law, 1997). The few studies which directly compare telephone and face-to-face interviewing tend to conclude that telephone interviewing produces data which are at least comparable in quality to that attained by face-to-face data collection. Robson (1993) suggests that telephone interviews share many advantages of face-to-face interviews, including a high response rate, the opportunity for interviewers to correct obvious misunderstandings and the possible use of probes. They also have advantages over face-to-face interviews in terms of smaller interviewer effects, lower tendency to socially desirable responses and lower cost (time, effort and money). Lavrakas (1987) claims that the greatest advantage of the telephone survey is the opportunity it offers for quality control, followed by cost-effectiveness and speed of data collection and processing. Marcus and Crane (1986) suggest additionally that, in comparison with face-to-face interviewing, telephone surveys offer greater personal safety and security to the interviewer and subject, particularly in high crime areas; they require fewer personnel and therefore more consistent interviewing styles can be ensured; they possibly reduce interviewer effects which might result in bias; and they allow use of random digit dialling techniques which ensure representative sampling. For many researchers, the efficiency of the telephone interview in the use of resources is its major advantage as it prevents the need for the researcher to travel to individual subjects' homes to conduct interviews (Marcus and Crane, 1986; Oppenheim, 1992; Barriball et al., 1996).

Telephone interviews also have the potential to ensure a high response rate not obtained with questionnaires, which can be discarded (Polit and Hungler, 1991). Response rates in telephone interview studies compared with in-person interviews have been found to be best where face-to-face recruitment had taken place (Marcus and Crane, 1986; Worth and Tierney, 1993). Wilson and Roe (1998) dispute this, suggesting that initial contact may be made just as effectively by post or telephone. Design strategies for telephone interviews suggest that the introductory statements made by the interviewer are crucial to ensuring a good response rate, with refusal to participate being most likely in the initial phase (Barriball et al., 1996). Initial questions should

be straightforward and simple, to help to increase respondents' sense of competence and to reduce any anxiety (Marcus and Crane, 1986; Lavrakas, 1987). Early open-ended questions may also help to establish rapport, reduce anxiety and allow participants to 'find their voice' (Dillman, 1978).

Several studies have compared the telephone interview with face-to-face interviews. Lyu et al. (1998) developed and tested a quantitative food frequency method for administration by telephone. To ascertain food intakes, interviews were conducted either face-to-face or by telephone. The authors concluded that telephone interviews to obtain quantitative food frequencies are a cost-effective method for estimating dietary intakes when people are scattered across wide geographic areas. Minnick and Young (1999) explored patients' perceptions of their hospital care and randomly assigned participants to receive either a pre-discharge in-person interview or a post-discharge telephone interview. They found little meaningful difference in the results and suggested that the method which could produce the most subjects with the least loss of consumer groups at the lowest cost was the most attractive. The one consideration was that vulnerable patients were unlikely to participate in telephone interviews, and this should be considered if this group of patients was to be included in the sample.

Not all studies have shown the telephone to be as effective as the face-to-face interview, and it is likely that the nature of the research question and sample are important considerations. Einarson et al. (1999) conducted telephone interviews and face-to-face interviews with patients accessing a teratogenic information service, to assess the level of agreement in the documentation between the two forms of interview. They found that, overall, a person-to-person interview yielded a more complete medical history, especially in relation to alcohol history, than a telephone interview. Herzog and Rodgers (1988) conducted telephone interviews and found higher levels of missing data and less detailed responses to open-ended questions. These findings might have been because of their sample population (elderly people) and the relatively general topic of health. While some studies may use a questionnaire to guide the interview, there are occasions when audiotaping may be preferable, particularly to ensure accuracy of data recording and to avoid problems of researcher selectivity and recall.

Healthcare research often involves questioning subjects in sensitive areas, but the literature reveals a generally optimistic view of the suitability of the telephone interview for addressing potentially 'difficult' topics such as mental health (Marks et al., 1998), substance abuse (Aktan et al., 1997), incontinence (Wilson and Roe, 1998) and cancer treatment (Rose et al., 1996). It appears that obtaining 'good' data on sensitive topics depends on the experience of the researcher, with those unfamiliar with telephone interviewing techniques being more likely to produce missing data (Marcus and Crane, 1986).

Disadvantages of telephone interviews include the greater difficulty in achieving rapport and the lack of visual cues to aid interpretation of speech (Robson, 1993), and the limitations placed on the length and complexity of the interview, with 20 to 30 minutes being considered the maximum before respondent fatigue sets in (Lavrakas, 1987). It may be that telephone interviews produce shorter responses than face-to-face interviews (Marcus and Crane 1986), and it is often asserted (for example, Frey, 1983, Lavrakas, 1987) that telephone interviews are more focused and less circumstantial than face-to-face interviews. Depending on the perspective and circumstances, this may be considered an advantage or disadvantage in research. Furthermore, certain sections of the population may be disadvantaged by telephone interviews, including those in households without a telephone, the hearing-

impaired, those who do not speak English as a first language, and those who are too ill or easily fatigued to participate in a long interview. Potential respondent burden is of particular concern when interviewing older people (Herzog and Rodgers, 1988; Worth and Tierney, 1993). There are, however, certain techniques which can help to overcome these problems, assuming that informed consent is assured. For example, the interviewer can ensure questions are not over-complex and can allow the respondent to set the pace of the interview (Worth and Tierney, 1993).

Hopper (1992) suggests that there is an inherent role imbalance in telephone conversations, where the caller has the initiative and the answerer must react. This is of particular relevance when considering the informed consent process in telephone interviewing, and is addressed below. The lack of visual cues (although the technology to support visual interaction is now developing) can raise anxiety, particularly in the respondent (Frey, 1983). The increased use of telemarketing may be seen by some members of the public as an invasion of privacy, which could, conceivably, adversely affect response rate, particularly for survey research where the respondent does not know the researcher will call. Hopper (1992) suggests that consumers 'strike back' against such imbalances of power by using mechanisms such as call screening, answering machines and unlisted numbers. Against this, the increased use of the mobile phone suggests a willingness on the part of large sections of the population to be more readily available for telephone contact and an increasing ease and sophistication with telephone use.

The literature suggests both advantages and disadvantages of telephone interviewing in research and there are certain circumstances, for example when a biographical approach is being taken, where the method would seem inappropriate. The following section briefly outlines some nursing research studies where telephone interviewing has been a central method.

RESEARCH CONTEXTS USING THE TELEPHONE INTERVIEW

Tierney et al. (1993), in a study of discharge planning, used telephone interviews to collect data from 351 older people previously recruited and interviewed in hospital. The participants were interviewed three times during the three months post-discharge about their experiences and the method was chosen for cost- and time-effectiveness, as well as allowing for qualitative data to be gathered. Of those recruited, 94% were found to be on the telephone, although a small number preferred to receive other forms of follow-up because of finding the telephone too difficult to use. Despite experiencing some difficulties with the method owing to hearing impairments and confusion among participants, the authors conclude that it was effective, yielding comprehensive data while proving cost-effective (Worth and Tierney, 1993).

Waterman et al. (1999) used telephone interviews in a study of patients' experiences of postoperative pain, nausea and vomiting following ophthalmic surgery. Fifty patients were interviewed eight days postoperatively, having been recruited in hospital. Four patients who had no telephone were interviewed face-to-face. The authors claim that telephone interviews were both 'efficient in time and conducive to free-flowing conversation'. Interestingly, the telephone interviews lasted between 20 and 60 minutes, longer than the maximum advisable time identified by Lavrakas (1987).

Barriball et al. (1996) conducted two telephone surveys of case management practices among community nurses in each district health authority in England, selecting telephone methods as the most appropriate owing to the geographical spread of respondents which precluded face-to-face interviews. They chose telephone interviews over mailed questionnaires in order to

improve response rates. The first survey identified key informants for each health authority, who were sent a questionnaire. A further telephone survey was conducted 18 months later to clarify and update the information obtained in the questionnaires. The authors describe how they promoted interviewer competence with a training programme, interview guidelines, scripted introductory sequences and various mechanisms of monitoring the quality of the interviews. In particular, they outline how a carefully worded introductory sequence, containing sufficient but brief information and positively worded phrases (such as 'I was hoping you could help me' and 'It would be valuable to draw on your expertise') can minimise non-response and poor compliance. The authors attained response rates of 52% and 81% in their telephone surveys and 68% in their mailed survey, experiencing some difficulties in making initial contacts, although no respondent contacted refused to participate. They acknowledge the problems of non-response bias, but conclude that the method is effective.

Wilson and Roe (1998) conducted telephone interviews with 376 people with continence problems who had indicated consent in a previous postal survey. They achieved a 79% response rate and interviews lasted between 30 and 80 minutes. They conclude that the telephone interview method can be usefully employed with people at all ages, and their study supports the use of the method in research where questions may be of a sensitive nature.

There are fewer reports of nursing research using computer-assisted telephone interviews (CATI), although some examples can be found in the medical and public health literature. They suggest that larger samples, more interviews and shorter interviews result from CATI. Ketola and Klockers (1999) telephoned 1,000 adults, randomly chosen from the population of 11,000 in a region of North Helsinki, Finland, to discuss cardiovascular disease risk factors and use of health services. The telephone calls were preceded by an introductory letter and information sheet and 67% of those approached were successfully interviewed. Reasons for non-participation were not having access to a telephone (19%), not being available (11%) and refusal to participate (3%). This suggests a lower proportion of telephone ownership than in the United Kingdom or United States of America. Interviews lasted 13 minutes, on average, and the authors claim to have achieved valid data, although they do raise the possibility of under-reporting of lifestyle risk factors such as smoking and obesity.

Harris et al. (1993) used CATI in a study of referral behaviour among GPs in a Scottish region, selecting the method because of the difficulty of conducting face-to-face interviews in a large and rural area and the complexity of the questions, which did not lend themselves to a questionnaire survey. The authors attained 564 interviews from 209 GPs, with each interview lasting between seven and 15 minutes. They concluded that the method is acceptable to GPs and that it is efficient.

These selected examples suggest that, in nursing research, the telephone interview is used predominantly (in both quantitative and qualitative studies) where contact has already been made with the participants, rather than in large-scale surveys utilising CATI. The method appears to be useful for both patient and practitioner interviews.

THE TELEPHONE INTERVIEW AS A RESEARCH METHOD OF DATA COLLECTION

The next section of this paper explores some of the issues to be considered when using the telephone interview as a method of data collection in a research study. To illustrate these, a longitudinal study, using a combination of methods to explore the impact of pain on patient outcomes following

major surgery, is used. This was a doctoral study by one of the authors (EC). Eighty-five women having major gynaecological surgery were assessed for anxiety, depression and the impact of pain after surgery using the Hospital Anxiety and Depression Scale (Zigmond and Snaith, 1983) and the Brief Pain Inventory (Cleeland and Ryan, 1994) questionnaires. Nursing documentation of pain management was transcribed, and brief field notes were made. To gain a greater understanding of the patients' response on the completed questionnaires and to enhance validity of the questionnaires, 37 patients participated in a semi-structured taped telephone interview four to six weeks postoperatively. Correlations, analysis of variance and multiple regression were used to analyse quantitative data, and the transcribed interviews were coded to enable themes and categories to be developed.

The semi-structured interview was selected as a method of data collection as it is well suited for the exploration of the perceptions and opinions of respondents (Barriball and While, 1994). Such exploration was particularly important in this study, where the ability to explore the subjective experience of pain and the effect upon the individual was an essential component. Unlike a questionnaire, interviews can be advantageous when new areas are being explored and an understanding of an area is being sought (Nay-Brock, 1984). They are one of the most frequently used methods of collecting qualitative data (Burnard, 1994).

The rationale for using taped telephone interviews was based on several factors. It was not feasible for the researcher to travel to individual patients' homes to conduct the interviews in this study, and earlier use of the face-to-face semi-structured interview had not been as successful in eliciting the richness and depth of data anticipated (Carr and Thomas, 1997). These interviews had taken place in hospital, which might have inhibited respondents replying as openly as they might have wanted to. Rose (1998) recognised the richness of the telephone conversation when talking with informal carers of dying relatives. While these conversations had not been planned as a method of data collection, as the study progressed she recognised the valuable contribution these might make to her research. It was suggested that the relative anonymity of the telephone might make it easier for some people to give personal information. Previous experience using the telephone interview with people who had experienced pain in hospital suggested it was a valuable method for exploring a subject which people were often unwilling to talk about openly (Carr, 1999). Confidence in using the interview can determine the quality of the research (May, 1991).

Audiotaping the interview (following consent) was selected as the research method for the pain study as it allowed detailed information on both the respondent and interviewer to be recorded, and the potential for error by recording data incorrectly could be avoided (Oppenheim, 1992; Barriball et al., 1996). It also enabled the interviewer to respond directly to the respondent as his/her attention was not consumed by writing notes. However, such interviews should not be undertaken lightly as there are important ethical considerations.

Ethical considerations with telephone interviews

The relative anonymity of the telephone, lack of face-to-face contact and the promise of confidentiality can allow participants to talk honestly and openly about their pain experiences. Patton (1990) recognises the highly personal and interpersonal nature of qualitative research, and identifies seven ethical considerations which have arisen in previous naturalistic enquiry. Parahoo (1997) also discusses a number of ethical implications that arise when interviewing

respondents. He highlights the role of the researcher before, during and after the interview, identifying the many potential opportunities for harm.

It is critical that informed consent is gained before the interview. For the pain study patients were approached by the researcher the day before their surgery. They were told that their name had been identified from the waiting list, and were given an overview of the study. This verbal information was reinforced with a patient information sheet. Written consent was then obtained if the patient decided to participate. While the patient information sheet included information about the possibility of a taped telephone interview four to six weeks after the person's operation, it was important to recognise that some patients might consent at the start of the study but feel very differently later on in their recovery. When patients were approached by telephone, later in the study, the researcher always sought verbal consent to proceed with the interview. In studies which recruit/interview patients face-to-face first, informed consent can be more easily assured, but for those not previously recruited, particular arrangements for ensuring informed consent, including the right to have time to consider participation, must be assured.

The interview process itself can be harmful and it is important to recognise an individual's right to privacy (Parahoo, 1997). Interviewing is a process of human interaction and is vulnerable to all the potential risks associated with this activity: embarrassment, anger, violation of privacy, misunderstandings, and conflicts in opinions (May, 1991). One ethical concern is the 'right to privacy' where respondents are allowed to decide how much information they want to share about themselves. In-depth, probing interviews may violate the right to privacy and indeed have been viewed as unethical (Fontana and Frey, 1994).

There are ethical implications to consider after the interviews. In relation to the pain study there were two important issues: confidentiality and advice. The researcher (EC) had previous experience using telephone interviews with people who have experienced pain and was able to identify some strategies in anticipation (Carr, 1999). For instance, participants who disclosed a problem which the researcher felt warranted a visit to their GP would be advised to make an appointment to see their GP and tell them what they had told the researcher. The researcher was supported by her supervisor when unanticipated ethical issues arose during the course of the study, and also had the opportunity to discuss particularly distressing interviews. It is essential that such support mechanisms are anticipated, as far as possible, in advance. A further consideration is the accuracy of the data and the extent to which it represents the views of the respondents. Sandelowski (1993) has suggested that to enhance the rigour of the qualitative data it is important that researchers use member checking, where the researcher formally checks out the interpretation of the analysis from the people interviewed.

Reliability

The patients were told that whether or not they had a telephone interview would be determined by their questionnaire responses. A standard approach to the conduct of the interview was taken for each patient, but specific interview questions were individually determined by each patient's questionnaire response. Additional clarification from their questionnaire responses was ascertained by asking probing questions such as: 'Your pain score was 8/10 on day 10. Can you tell me more about this?' These questions allowed the researcher to elicit a greater understanding of the factors which might have contributed to each patient's pain experience and recovery. It focused on two discrete peri-

ods of time: pain in hospital, and pain at home. Additionally, the patients were asked for their current pain score on movement and whether they had made contact with their GP or community health team in relation to pain.

Validity

The nature of a semi-structured interview means there is flexibility to validate the meaning of a respondent's answers in the questionnaires (Treece and Treece, 1986). However, while the opportunity to probe and clarify potentially validates the data (Barriball and While, 1994), freer exploration of the patient's meaning and beliefs may be at the expense of reliability (Wilson, 1996). The freedom to explore patients' personal experience of pain is particularly important in this study, as pain is such a subjective and multidimensional experience. The researcher had experience using the telephone interview to explore pain experience and this was seen as a strength for the validity of the interview.

Limitations

Patient motivation to answer questions on the telephone could determine the quality of the information given (Moser and Kalton, 1986). At the time of interview, some patients might have been contending with a recent diagnosis of cancer, and pain might not have been a priority for them. There have been criticisms of using the telephone interview with elderly people (Victor 1988; Herzog and Rodgers, 1988), but these concerns have been refuted (Worth and Tierney 1993; Wilson and Roe, 1998), and in this study elderly patients were a small part of the population. A further limitation relates to the non-response rate not being a random process, which might introduce serious bias (Polit and Hungler, 1991). Potential bias in the sub-sample might emerge through the criteria used to select for interview. It was also possible that these criteria could mitigate the individuality and subjectiveness of the pain experience.

PROCESS OF DATA COLLECTION AND ANALYSIS

Once the questionnaires had been returned from each patient, and entered into the computer, a decision could be made whether to interview the patient. While it might have been desirable to interview all participants, this was not feasible in terms of time. The decision to interview was determined by the average score from the 'interference of pain' category on the 'Six aspects of daily life' heading on the Brief Pain Inventory questionnaire for day 10, post-operatively (Hoyt et al., 1994). A score of less than 3.33 and greater than 6.66 on this day was chosen because it was anticipated that this would identify patients who had experienced little interference from their pain postoperatively as well as those for whom pain had been a problem.

Thirty-seven patients met the criteria, and taped telephone interviews were conducted between weeks four and six post-operatively. Calls were made between 10.30am-midday and 2pm-4pm to avoid mealtimes and other activities, such as children going to school, washing and dressing. At the beginning of each telephone call the researcher said clearly who she was and thanked the respondent for completing and returning the questionnaire. It was ascertained if this would be a convenient time to conduct a short telephone interview. If it was not, then another time was agreed. None of the patients approached declined to be interviewed. Two telephone calls to contact interviewees were made, and if both were unsuccessful no further contact was made.

Data from the semi-structured telephone interviews were transcribed verbatim by the researcher the same or next day, as delay can affect the quality of the research data. The transcripts were then analysed for codes and finally for emerging themes (Polit and Hungler, 1991).

REFLECTIONS ON THE USE OF THE TELEPHONE INTERVIEW IN PAIN RESEARCH

Several important issues emerged from using the telephone interview as a method of data collection. For instance, the importance of developing rapport before interviewing was identified as being important for ensuring the reliability of the interview, which also minimised the threats to validity from the questionnaire.

The process of identifying and contacting patients appeared to work well. The previous face-to-face contact in hospital had established a good rapport and most patients seemed pleased to hear from the researcher and welcomed the opportunity to discuss their pain and progress since discharge home. Webb (1984) discusses in depth the issues of interviewing women who have had a hysterectomy, using a feminist research methodology, and the importance of establishing rapport. In Webb's study, the researcher's interest in the woman's health and being female might have contributed to the positive rapport which developed.

It is recognised that the personal characteristics of the interviewer, such as gender, age, culture, language, and so on, can all influence respondents' responses (Fink, 1995), and it was possible that some patients did not feel able to discuss their pain openly because of these factors. A further threat to the validity of the interview relates to the truth and comprehensiveness of the respondents' accounts. Some respondents may report what they think is required or withhold information which may be critical of the care they received (Davis, 1980). The extent of these influences could not directly be determined but, overall, most patients sounded relaxed and eager informants, which was possibly influenced by the time lag between their experience in hospital and the interview.

While pauses in the conversation and nuances in the tone of voice could indicate that the respondent was experiencing difficulties, there were occasions when being unable to observe respondents for their non-verbal cues limited the value of the data obtained because it limited the extent to which these cues could be identified and possibly explored further. However, this inability to observe the respondent meant that the interviewer did not feel compelled to prompt or probe for further information as readily as might have occurred in a face-to-face interview. These natural 'pauses' sometimes allowed time for respondents to talk further about their pain management and share information which might, inadvertently, have been blocked by the interviewer interjecting too soon.

The telephone interview offered an opportunity to minimise threats to validity from the questionnaire by counterbalancing inherent weaknesses (Knafl and Breitmayer, 1991). The responses on the questionnaire were used as a guide about pain which could be confirmed, refuted or explored further during the interview. For example, where a patient had rated that pain (greatly) interfered with general activities, walking and sleep, the researcher would use a general statement: 'I noticed that pain seemed to interfere on day 10' to encourage the patient to say more. During the interview analysis it was noted that patients rarely discussed how pain had interfered with their sleep despite evaluating this as high on the questionnaire. There are several reasons for explaining the discrepancy. One is their perception that pain will inevitably interfere with sleep and that they therefore accept this as normal and not worth mentioning. Furthermore, interference of pain with sleep may be less obvious than with other outcomes such as walking or general activity, as patients may be able to hide their fatigue better than their inability to walk comfortably, and find it difficult to describe how it affected them. In retro-

spect, it is a question which might have been considered more specifically, especially as sleep deprivation has been linked to increased pain sensitivity (Closs, 1992). The discrepancy between items rated on questionnaires and discussed during interviews is not uncommon, and divergence is often an opportunity to enrich the explanation (Jick, 1979).

Bergen (1992) researched the nursing care of terminally ill people in the community. After triangulating the questionnaire and interview she found that patients rarely mentioned symptoms such as sleep and fatigue during the interview, although they had previously rated these high on the questionnaire. She suggests that patients may overlook these symptoms as they are hidden more easily than pain or constipation. The other notable discrepancy between the Brief Pain Inventory and interview data related to the strategies which helped pain that were used by the sub-sample of women who experienced low pain scores. When interviewed, four of these women disclosed that they had used Arnica montana to help with their pain, but they had not mentioned this on the questionnaire. It is possible that they felt it was not important or that they held concerns about how it would be viewed. There may also have been other strategies which patients chose not to mention.

It is evident that the telephone interview is a versatile research method for data collection. Such observations led the authors to consider other applications of the telephone interview and the next section hopes to 'open doors' by suggesting possible applications of the telephone interview beyond healthcare research.

POTENTIAL APPLICATIONS OF THE TELEPHONE INTERVIEW

The government has recently proposed new reforms in healthcare which are based on a quality framework which has clinical governance at the centre. Clinical governance will attempt to ensure that organisations are accountable for continuously improving the quality of their services and for safeguarding high standards of care by creating an environment in which excellence in clinical care can flourish (DoH, 1997; 1998).

Inclusion of the patients' perspective and experiences of their care is critical for feeding into the improvement cycle, using quantitative and qualitative feedback systems (Tasa et al., 1996). Incorporating patients' view of their care, and learning about the process of care through their eyes, offers a powerful opportunity to bring their concerns to the forefront and to design care accordingly (Cleary et al., 1991). Reiser (1993) argues that the idea of gaining the patients' perspective in healthcare has been eclipsed, but the increasing emphasis on involving patients does bring them to centre stage. The telephone interview offers a robust method of eliciting information from patients about the quality of their care which could be used to help design improved services. Carr (1999) used a semi-structured telephone interview schedule as part of a hospital-wide audit on postoperative pain at a district general hospital in the south of England. Several patients identified insightful strategies that, potentially, could improve pain management. Overall, the interview generated a richness of data that had not been reported before in this important area.

The amount of time patients stay in hospital is reducing all the time and there is a need to develop services which will bridge the gap between primary and secondary care. There are several illustrations of telephone follow-up services which have been developed to meet this need. Recognising the limited time staff have available to support women after miscarriage, Jacobs and Harvey (2000) report on the qualitative evaluation of a telephone follow-up service provided as part of the Miscarriage Support Programme of Care at an

Australian hospital. Feedback from these interviews has guided the support and discharge planning of gynaecology in-patients. Another example where telephone follow-up has met a need is with mothers of pre-term infants discharged from a special care nursery who often face overwhelming challenges when trying to breastfeed in the early post-discharge period (Elliot and Reimer, 1998). To support these mothers, a telephone follow-up form was developed to help identify potential or actual problems and a plan of care was devised. Feedback has been very favourable.

Telephone interviews may also be used as a triage mechanism in healthcare. Marsden (1999) describes how nurses in an accident and emergency department use formalised telephone triage to prioritise patients' needs. Her study highlights how nurse practitioners can employ complex and expert decision-making processes via telephone interviews with patients to ensure that those with the most urgent needs receive immediate attention.

Current healthcare policy encourages the public to use the telephone to gain access to health advice and information. NHS Direct is one example of a health service which depends on telephone contact, albeit initiated by the patient rather than the health professional or researcher. NHS Direct is a 24-hour telephone helpline, staffed by nurses using decision-support software, which aims to provide accessible advice and support to the public. In order to achieve the aim of accessibility, the public must find the telephone consultation acceptable. A recent survey (O'Cathain et al., 2000) sampled 1,050 callers to NHS Direct and sent each a questionnaire concerning their experiences and views. A response rate of 71% was achieved and 96% described the advice received as very or quite helpful, with the main reasons for satisfaction being related to reassurance. An earlier survey (Florin and Rosen, 1999), however, found that older people were under-represented in callers to NHS Direct and that there were wide geographical variations in calls made to pilot sites, with residents of Milton Keynes in Buckinghamshire far more likely to contact the service than those in Northumbria. Pencheon (1998) suggests that telephone services risk being most acceptable to those who need least help and that those who do not speak English as a first language, or those with mental health problems, may be excluded. This indicates an area of common concern in healthcare and research regarding the use of the telephone as a tool.

CONCLUSION

The telephone interview has tremendous potential as a research instrument and in the delivery and evaluation of healthcare. It is cost-effective, it can be used with minimum disruption, and it permits considerable flexibility. Critically appraising its strengths and weaknesses will contribute to the rigour of this method and encourage greater use. One area of concern is its possible disadvantages to those without access to a telephone or those who are unable to use it effectively because, for example, of language or hearing problems. This potentially contributes to the omission of disadvantaged groups from research and access to healthcare, a serious consideration given the current need to address inequalities in health.

The increased use of the method, as identified in the literature review, suggests that the advantages of telephone interviewing are being recognised by researchers in healthcare. However, the potential applications of the telephone interview may still be under-recognised, both in research and patient care. In particular, the lack of large-scale surveys using telephone interviewing in nursing research is notable.

In summary, the telephone interview offers a flexible and cost-effective

method of collecting data. With ever-finite resources and increasing pressure to find more efficient ways of working, the telephone interview appears to be a powerful tool whose day is yet to come.

KEY POINTS

- The telephone interview appears to be gaining popularity in healthcare research
- The telephone interview is a cost-effective and flexible method of data collection
- Further potential to use telephone interviews in research, audit and practice is being developed as technology advances
- Further evaluation of the method is required, with particular attention to those sections of the population potentially excluded by difficulty in accessing or using the telephone.

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